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# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/000267	International filing date (day/month/year) 28 janvier 2003 (28.01.2003)	Priority date (day/month/year) 29 janvier 2002 (29.01.2002)
International Patent Classification (IPC) or national classification and IPC C02F 3/12		
Applicant ONDEO DEGREMONT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 18 août 2003 (18.08.2003)	Date of completion of this report 01 June 2004 (01.06.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/FR2003/000267

## I. Basis of the report

1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

☐ the international application as originally filed.

☒ the description, pages 1-13, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. 1-10, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the drawings, sheets/fig 1/2-2/2, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	5-10	YES
	Claims	1-4	NO
Inventive step (IS)	Claims		YES
	Claims	5-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

### 2. Citations and explanations

Reference is made to the following documents:

- D1: US-B-6 254 778
- D2: US-A-4 442 005
- D3: DE 100 09 251
- D4: DE 26 31 825 A

1. The present application does not satisfy the conditions stipulated in PCT Article 33(1), as the subject matter of claim 1 fails to comply with the criterion of novelty as defined by PCT Article 33(2).

D1, which is considered to be the prior art closest to the subject matter of claim 1, describes (the references between parentheses apply to this document): an effluent treatment method using an aeration tank (2; figure 4) in which the raw effluent is mixed, without prior decantation (column 8, lines 48 to 51), with a microbial culture in a slightly aerated medium (column 8, lines 62 to 64), the organic load being greater than 2 KgCOD/KgDM.d (column 6, lines 55 to 56), the hydraulic retention time in the tank being 90 minutes (column 6, line

67).

Consequently, the subject matter of claim 1 is not novel over D1.

2. The present application does not satisfy the conditions stipulated in PCT Article 33(1), as the subject matter of claim 7 fails to comply with the criterion of inventive step as defined by PCT Article 33(3).

D4 describes (the references between parentheses apply to this document): a facility (see figure) comprising a free-culture reactor (2) containing means for supplying air and mechanically stirring (4), means for measuring the turbidity (Tr, TrS; page 6, lines 6 to 9) of the activated sludge, means for measuring the dissolved oxygen concentration (5), a servo system for controlling the recirculation rate (8, 10, 12; page 6, lines 15 and 16) and the air supply (8, 6, 4; page 5, lines 29 to 32), an intermediate clarifier (3) and a circuit for recirculating the sludge from the clarifier to the reactor.

In D4, the turbidity is not measured "in the reactor".

The subject matter of independent claim 7 is therefore novel over D4.

- 2.1 The problem that the present invention is intended to solve can be considered to be that of "controlling the sludge recirculation rate so as to maintain a constant concentration of solid matter in

the reactor, which is calculated according to the turbidity".

The solution proposed in claim 7 of the present application, "measuring the turbidity in the reactor", is not considered inventive (PCT Article 33(3)) as this feature has already been used for the same purpose in an equivalent facility (see D2, figure 1 and column 6, lines 18 to 22, or D3, figure 1). It is obvious for a person skilled in the art to apply this feature, with a corresponding effect, in a facility according to D1 and thereby obtain a facility according to claim 7.

The present application does not satisfy the conditions stipulated in PCT Article 33(1), as the subject matter of claim 7 does not involve an inventive step.

3. Dependent claims 2 to 4, 6 and 8 to 10 appear to contain no feature which, when combined with the features of any one of the claims to which they refer, defines subject matter that complies with the requirements of novelty and/or inventive step of the PCT, because they are merely some of several obvious options that a person skilled in the art might select, depending on each particular case, and without an inventive step being involved.

The subject matter of dependent claim 5 is not considered inventive (PCT Article 33(3)), because the feature "control system whereby the recirculation rate is modulated, control being provided by measuring the turbidity of the activated sludge" has already been used for the same purpose in an equivalent control system (see D2, figure 1

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and column 6, lines 18 to 22, or D3, figure 1). It is obvious for a person skilled in the art to apply this feature, with a corresponding effect, in a method according to D1 and thereby obtain a method according to claim 5.